

REPORT  
OF THE  
COMMISSIONERS  
OF THE  
TRANSCONTINENTAL RAILWAY  
FOR THE  
FISCAL YEAR ENDING MARCH 31  
1907

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OTTAWA

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# REPORT

(39a)

Of the Commissioners of the Transcontinental Railway for the fiscal year ended  
March 31, 1907.

The Honourable  
Acting Minister of Railways and Canals,  
Ottawa.

SIR,—We have the honour to transmit through you to His Excellency the Governor General in Council our third annual report, being for the fiscal year ended March 31, 1907, setting forth the receipts and expenditures in connection with the eastern division of the National Transcontinental Railway, and such other matters in relation to the said railway as appear to be of public interest.

Information in detail as to the progress of the work will be found in the report of the chief engineer and in the reports of the district engineers hereto annexed.

## SURVEYS.

A first location of the entire line from Moncton, N.B., to St. Boniface, Man., with the exception of about fifty miles in District 'C,' has been completed, and a large proportion of this has been revised; and our chief engineer anticipates that the line shall have been finally located by the end of August.

## CONSTRUCTION.

Contracts for construction, after having been duly advertised, as required by the National Transcontinental Railway Act, have been awarded in each case to the lowest tenderer, as follows, viz.:—

Steel superstructure for highway span, 90 feet over all, over the Cap Rouge viaduct, District 'B,' to the Dominion Bridge Company, Limited, Montreal.

33,000 gross tons 80-lb. steel rails: 23,000 gross tons for delivery on dock alongside vessel at the city of Quebec, for the price of \$34 per gross ton; 10,000 gross tons for delivery at Fort William or Port Arthur, for the price of \$34.50 per gross ton, free on dock—to the Dominion Iron and Steel Company, Limited, Sydney, C.B.

32,000 gross tons 80-lb. steel rails, delivered at Fort William or Port Arthur, for the price of \$34 per gross ton, free on dock—to the Algoma Steel Company, Sault Ste. Marie, Ont.

1,217 gross tons splice bars, for delivery at the city of Quebec, for the price of \$47.04 per gross ton, free on dock—to the Nova Scotia Steel and Coal Company, New Glasgow, N.S.

2,241 gross tons splice bars, for delivery at Fort William, for the price of \$43.68 per gross ton, free on dock—to the Hamilton Steel and Iron Company, Limited, Hamilton, Ont.

202,800 lbs. track bolts and nuts, for delivery at Fort William, for the price of \$3.60 per 100 lbs., free on dock—to the Toronto Bolt and Forging Company, Limited, Toronto, Ont.



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310,100 lbs. track bolts and nuts, for delivery as follows:—

107,200 lbs. f.o.b. cars or free on dock alongside vessel at the city of Quebec, and

202,900 lbs. f.o.b. cars or free on dock alongside vessel at Fort William, for the price of \$3.41 per 100 lbs.—to the Gananoque Bolt Company, Gananoque, Ont.

426,300 lbs. track bolts and nuts, for delivery as follows:—

223,500 lbs. f.o.b. cars or free on dock alongside vessel at the city of Quebec, for the price of \$3.57½ per 100 lbs., and

202,800 lbs. free on dock alongside vessel at Fort William, for the price of \$3.65 per 100 lbs.—to the Montreal Rolling Mills Company, Montreal, P.Q.

1,188,200 lbs. track spikes, for delivery free on dock alongside vessel at the city of Quebec, for the price of \$2.50 per 100 lbs.—to the Peck Rolling Mills, Limited, Montreal, P.Q.

728,900 lbs. track spikes, for delivery free on dock at Fort William, for the price of \$2.55 per 100 lbs.—to the Toronto Bolt and Forging Company, Limited, Toronto, Ont.

728,900 lbs. track spikes, for delivery free on dock at Fort William, for the price of \$2.55 per 100 lbs.—to the Montreal Rolling Mills Company, Montreal, P.Q.

729,000 lbs. track spikes, for delivery free on dock at Fort William, for the price of \$2.55 per 100 lbs.—to the Hamilton Steel and Iron Company, Limited, Hamilton, Ont.

210,000 railway ties, for the price of 50c. per tie for 1st class and 46c. per tie for 2nd class, and

268,050 ft. b.m. railway switch ties, for the price of \$25 per M ft. b.m.—to John G. Hearn, Quebec, P.Q.

335,000 railway ties, for the price of 57c. per tie for 1st class and 44c. per tie for 2nd class—to John G. Hearn, Quebec, P.Q.

Steel superstructures for bridges over rivers Aux Pommès, Portneuf, St. Anne and Noir, for the price of 4.04c., 4.09c., 4.09c. and 4.18c. per lb., respectively—to the Locomotive and Machine Company, Montreal, P.Q.

100,000 railway ties, for the price of 40c. for 1st class and 35c. for 2nd class—to Robert Bates, Kenora, Ont.

Steel superstructures for bridges at Jacques Cartier river, Charest river and Batiscan river, for the price of 4.19c. per lb., 3.95c. per lb. and 4.23c. per lb., respectively; price for timber and floor system \$50 per M ft. b.m.—to the Dominion Bridge Company, Limited, Montreal, P.Q.

50,000 railway ties, for the price of 67c. per tie for 1st class and 60c. per tie for 2nd class, delivered f.o.b. cars at junction between National Transcontinental Railway and Canadian Northern Railway, St. Boniface, Man.—to Edward Guilbault, St. Boniface, Man.

For construction Districts 'C' and 'D,' from a point designated on the plans of the Commissioners, about eight miles west of the Abitibi river crossing easterly, a distance of about 150 miles—to the Grand Trunk Pacific Railway Company, Montreal, P.Q.

*District 'B.'*—From a point designated on the plans of the Commissioners, about 150 miles west of the Quebec bridge, westerly to a point known as Weymontachene, a distance of about 45 miles, to the Grand Trunk Pacific Railway Company, Montreal.

*District 'B.'*—From a point designated on the plans of the Commissioners at or near the Quebec bridge, easterly for a distance of about 150 miles—to M. P. & J. T. Davis, Quebec, P.Q.

*District 'A.'*—From a point designated on the plans of the Commissioners at or near the town of Grand Falls, N.B., westerly to the boundary between the provinces of New Brunswick and Quebec, a distance of about 62 miles—to Lyons & White, Ottawa.

*District 'A.'*—From a point designated on the plans of the Commissioners at



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or near the city of Moncton, N.B., westerly for a distance of about 50 miles,—to the Grand Trunk Pacific Railway Company, Montreal.

The contracts for the mill and shop inspection of the material and workmanship for bridges have been awarded to the Canadian Inspection Company, of Montreal, for the price of 45 cents per ton of 2,000 lbs. This company has also been awarded contracts for the inspection of the steel rail fastenings for the price of 20 cents per ton.

The contract for the inspection of the 65,000 gross tons of 80 lb. steel rails was awarded to the Standard Inspection Bureau, of Toronto, for the price of 5 cents per ton.

Statement of expenditure and the report of the purchasing department are annexed hereto. The former shows a total expenditure for the nine months ended March 31, 1907, of \$5,537,867.50; of this amount our purchasing department expended for supplies, &c., \$224,880.49.

An agreement dated March 1, 1907, respecting joint terminals at Winnipeg was entered into between the Canadian Northern Railway Company, the Grand Trunk Pacific Railway Company, and His Majesty the King, acting in respect of the Dominion of Canada, and therein represented and acting by the Honourable the Minister of Railways and Canals, and the Commissioners of the Transcontinental Railway.

The whole respectfully submitted.

C. F. McISAAC,  
ROBT. REID,  
C. A. YOUNG,  
S. N. PARENT.

*Chairman.*

*The Commissioners of the Transcontinental Railway, Ottawa, Ont.*

SIRS,—I have the honour to submit the following report of work done by the engineering staff of the Transcontinental Railway from the 1st of July, 1906, to the 31st March, 1907.

## DISTRICT 'A.'

It having been determined to make a first location of the 'river' route, in order that a closer comparison of cost of construction might be made between it and the 'back' or 'central' route (over which a first location had already been made), this was done, and the district engineer reported on the same under date of December 31, 1906.

The accompanying report of Mr. Guy C. Dunn, district engineer, gives full details of the work done, and from this it will be seen that he strongly recommended the adoption of the central route pusher grade, it being shown to be 46.4 miles shorter and \$1,850,076.59 less costly to construct than the river route, and when constructed and its operating value taken into consideration it shows a balance in all in its favour of \$5,832,191.09, and in this I concur.

In March, 1907, contracts were awarded for 50 miles from Moncton westerly to the Grand Trunk Pacific Railway, and 62 miles from a little west of Grand Falls to the boundary of the province of Quebec to Messrs. Lyons & White, but no work is likely to be begun before the snow goes.

HUGH D. LUMSDEN, Esq.,

Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—In conformity with instructions, I herewith beg to submit general report of work done on this district from 30th of June, 1906, to the end of the fiscal year, the 31st of March, 1907.



DESCRIPTION OF WORK DONE.

On the 1st of July, 1906, eight parties were in the field, three of these being on preliminary location on the river route, one on preliminary location between Edmunston and the Quebec boundary, one on revised location between Grand Falls and the Quebec boundary, one on preliminary location west of Chipman, and one on revised location east of Chipman on line common to both routes. One small party was also engaged taking borings of the Salmon river at Chipman.

WORK DONE BY PARTIES.

Party No. 2 on the 1st of July was engaged on revised location on line common to both routes west of Grand Falls. This party ran revised location until September, and was also engaged on final location from the Quebec boundary towards Grand Falls until it was disbanded on the 29th October, 1906.

Party No. 3 was engaged on revised location east of Chipman on line common to both routes, and in September commenced final location from Moncton westward towards Chipman until disbanded on October 12, 1906.

Party No. 4 on the 1st of July was engaged on preliminary location west of Chipman on the central route. Early in July this party was transferred to Moncton and ran revised and final location until disbanded on the 15th of October, 1906.

Party No. 5 on the 1st of July was engaged on preliminary location between Fredericton and Chipman on the river route, and on completion of this work was disbanded on August 6, 1906.

Party No. 6 was running preliminary location on the river route between Woodstock and Fredericton until disbanded on the 13th of July, 1906.

Party No. 7 was placed in the field in October, 1906, on right of way surveys, and completed same between Moncton and the 50th mile, after which they were transferred to the fifth division, between Grand Falls and the Quebec boundary, and are still in commission.

Party No. 8 was engaged on preliminary location and alternative locations on the river route around Chipman, and was disbanded on September 5, 1906.

Party No. 9 on the 1st of July was engaged on preliminary location between Quebec boundary and Edmunston. In August it commenced on final location from Grand Falls westward until disbanded on November 2, 1906.

Party No. 12, with a steam power core drill, was taking borings at Chipman on July 1, and was disbanded on the 16th October, 1906. It was re-assembled in February and since then had been engaged with hand drills taking borings of the streams on division No. 5.

*Total Mileage of Surveys run by Parties, District 'A,' June 30, 1906, to March 31, 1907.*

	Miles.
Exploration.. . . . .	70·49
Preliminary lines.. . . . .	82·29
Abandoned preliminary lines.. . . . .	0·50
Preliminary location.. . . . .	93·60
Abandoned preliminary location.. . . . .	21·68
Revised location.. . . . .	111·44
Abandoned revised location.. . . . .	42·89
Final location.. . . . .	117·51
Total.... . . . .	540·40

ALTERNATIVE ROUTES.

All surveys on alternative routes between Chipman and Grand Falls having been completed and estimates of cost and operation made on same, I had the honour under



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date December 31, 1906, to submit an interim report, extracts from which I herewith embody in this report, as follows:

‘Results of Alternative Lines,’ distances, Chipman to Grand Falls :

Via Central Route Standard Grade.. . . . .	155·51
“ “ “ Pusher “ . . . . .	138·30
“ River Route Standard Grade.. . . . .	184·74

#### COMPARISON OF CURVATURES.

	6 Curves.	Other Curves.	All Curves.
Central Route Standard Grade.....	393 20'	5499 46'	5893 06'
“ “ Pusher “ . . . . .	393 20'	4406 50'	4800 10'
River Route Standard Grade.....	399 00'	5177 11'	5576 11'

#### COMPARISON OF COST.

Chipman-Grand Falls, River Route Standard Grade.	\$8,217,745 65
“ “ Central Route Pusher Grade.	6,367,669 06
Amount in favour Central Route Pusher Grade . . . .	\$1,850,076 59
Chipman-Grand Falls, Central Route Standard Gr.	\$8,227,072 29
“ “ River Route Standard Gr... .	8,217,745 65
Amount in favour River Route Standard Grade.. . .	\$ 9,326 64
Chipman-Grand Falls, Central Route Standard Gr..	\$8,227,072 29
“ “ “ “ Pusher Grade.	6,367,669 06
Amount in favour Central Route Pusher Grade.. . .	\$1,859,403 23

The above estimate of cost includes all grading, structures, track-laying, and track material, sidings, switches, interlocking systems where necessary, semaphores, &c., ties, timber, telegraph line, clearing, grubbing, right of way, fencing, tanks, but no buildings or equipments, nor is there any amount included for terminals, which if included would slightly increase the cost per mile of the River Route over the Central Route Pusher Grade and Standard Grade lines.

#### COMPARATIVE VALUE OF LINES.

Having made the above comparisons of cost of construction I will now submit the relative values of these three lines, including cost of operating.

##### *River Route and Central Route Standard Grades.*

(River Route—29·2 miles longer than Central Route Standard Grade.)

Difference in distance—29·2 miles, capitalized value of which on a basis of 20 daily trains is.. . . . .	\$3,095,200 00
Plus capitalized value of two bridge draws and one extra railway grade crossing on River Route.. . . . .	150,000 00
	<hr/>
	\$3,245,200 00



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	\$3,245,200 00
Less capitalized value of excess of rise and fall on Central Route... ..	330,688 50
Less excess curvature on Central Route....	25,360 00
Less cost of transportating plant, supplies and material to Central Route Standard Grade line... ..	200,000 00
Less excess cost of constructing Central Route Standard over River Route .. ..	9,326 64
	<hr/> 565,375 14
Balance in favour Central Route Standard Grade ..	\$2,679,824 86

*River Route and Central Route Pusher Grade.*

(River Route—46·4 miles longer than Central Route Pusher Grade.)	
Difference in distance—46·4 miles. Capitalized value of which on a basis of 20 daily trains is... ..	\$4,918,400 00
Excess in cost of construction River Route over Central Route Pusher Grade .. ..	1,850,076 59
Excess of curvature on River Route... ..	62,080 00
Plus capitalized value of two bridge draws and one extra railway grade crossing on River Route... ..	150,000 00
	<hr/> \$6,980,556 59
Less capitalized value of one Pusher for 6 months... ..	\$486,000 00
Less capitalized value of excess of Rise and Fall on Central Route Pusher... ..	502,365 50
Less cost transporting plant supplies and material to Central Route Pusher Grade line... ..	160,000 00
	<hr/> 1,148,365 50
Balance in favour Central Route Pusher Grade.. ..	\$5,832,191 09

*Central Route Standard and Pusher Grades.*

(Standard Grade—17·2 miles longer than Pusher Grade.)	
Difference in distance—17·2 miles, capitalized value of which, on a basis of twenty daily trains, is... ..	\$1,823,200 00
Excess in cost of construction of Standard Grade over the Pusher Grade Line... ..	1,859,403 23
Excess in curvature of Standard Grade over Pusher Grade... ..	87,440 00
Excess in cost of transporting plant, supplies and material to Standard over Pusher Grade Line .. ..	40,000 00
	<hr/> \$3,810,043 23
Less capitalized value of excess of rise and fall on Pusher Grade... ..	\$171,677 00
Less capitalized value of one Pusher for 6 months... ..	486,000 00
	<hr/> \$657,677 00
Balance in favour of Pusher over Standard Grade ...	\$3,152,366 23



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## ROUTE RECOMMENDED.

I will now refer you to the National Transcontinental Railway Act, 3 Ed. VII., chapter 71, clause 2, which very clearly defines the route through New Brunswick, and reads as follows:—

‘The eastern division shall comprise the portion of the said railway to be constructed from its eastern terminus through the central part of the province of New Brunswick and through the province of Quebec, by the shortest available line, to the city of Quebec.’

By the reading of this Act, by the instructions received from yourself and the late Chairman of the Commission, together with the results obtained from the preliminary location surveys between Chipman and Grand Falls, I most emphatically recommend the adoption of the central route, pusher grade. From an engineering and operating point of view there is no question as to the superiority of the central route, standard grade, over the river route, and of the central pusher grade over the central route standard grade, and the only argument that could possibly be used against the adoption of the pusher grade would be that, as a matter of sentiment, it might be a mistake to make a break in the 0.4 per cent grade rising eastward. I think, however, that in a work of this magnitude all sentimental arguments can be dismissed and the merits of the lines discussed from a strictly business basis, and it would not be out of place here to point out that by the adoption of the line as mentioned, that for all passenger traffic, and mail and express delivery, the distance between the city of Moncton and the city of Quebec, or points west thereof, would be reduced by one hour over the river route, that all freight delivery would be reduced by nearly two hours, and also that all passenger trains and all light freight trains could be operated over the pusher grade without assistance.

## CASUALTIES.

No fatal accident or death has so far occurred on this district, and the health of the men engaged on the work has been exceptionally good.

## CONCLUSION.

The following contracts have been let on this district:—

From Moncton westward for 50 miles, to the Grand Trunk Pacific Railway Company; and 60.8 miles from the vicinity of Grand Falls to the Quebec boundary, to Messrs. Lyons & White, and although this past winter has been a severe one in New Brunswick, the fall of snow being very great, I hope to see actual construction on the above two sections commenced about the 1st of May.

All of which is respectfully submitted.

GUY C. DUNN,  
*District Engineer, ‘A.’*

## DISTRICT ‘B.’

In this district the surveys have practically been completed, except at the extreme east and west ends, where in all three parties are still engaged.

The work of construction on the contracts awarded in 1906 is progressing steadily, and a contract for the construction of 150 miles easterly from the Quebec bridge was awarded to Messrs. M. P. & J. T. Davis on the 9th of March, 1907, and another contract for the construction of about 45 miles from the 150th mile westerly from the Quebec bridge westerly to the 195th mile, to the Grand Trunk Pacific Railway Company on the 14th of March, 1907.



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The following is a report from Mr. A. E. Doucet, district engineer, District 'B':—

HUGH D. LUMSDEN, Esq.,  
Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—In conformity with your instructions to prepare a report of the work of location and construction done in District 'B' since the 30th of June, 1906, up to the 31st of March, 1907, I beg to report as follows:—

Our location parties have been steadily at work in the field since the former date and our final location throughout the whole district is complete, with the exception of the short gap between the New Brunswick boundary at Lake Baker and the end of the 150-mile contract lately let east of the Quebec bridge. This gap, some 30 miles in length, will be completed about September. Party 5A is attending to this work. Party 2 is rechaining and restaking the final location from the Quebec bridge easterly, as most of this work was done during the winter, and we will have to keep another party in the field to restake the final location from the Vermilion river, north of La Tuque, to Weymontachene, at the westerly end of District 'B,' as this location was also done during the winter of 1906-7. The other location parties are disbanded.

The final length of line through the district is as follows:—

	Miles.
From boundary line of New Brunswick to the north abutment of Quebec bridge. . . . .	202
From the north abutment of the Quebec bridge to Weymontachene. . . . .	198·77
Total length. . . . .	400·77

We have one land surveying party at work on the south shore of the St. Lawrence river getting the plans ready so that the work of buying the several properties through which our line runs may not delay the contractors' work, and, in order to make assurance doubly sure, it is our intention to place still another party of the same description in the field for the same purpose.

#### TRANSPORT.

The work performed by our storekeeper and commissaries has been entirely satisfactory. As the location parties have practically finished their field work, the commissaries' services have been utilized in provisioning the parties on construction.

#### GENERAL.

I am happy to state that there have been no fatal accidents in District 'B' during the year.

#### CONSTRUCTION.

As 300 miles out of the 400 in District 'B' are now under construction, it has been found advisable to divide at once the whole of the district into divisions and residencies, the former comprising from 34 to 65 miles in length, according to the difficulties of transportation; and the residencies from 11 to 16 miles. There are 11 divisions and 36 residencies. It has been found practicable to fill all the positions of division and resident engineers, with very few exceptions indeed, from amongst the members of the several survey parties formerly employed on the location of the line, and the younger members, such as topographers, draughtsmen and rodmen, have been appointed as instrumentmen.

Owing to the farms in the settled portions of the province of Quebec being so narrow and consequently so numerous, we have had to organize a regular staff of land agents, whose duty it is to visit the different localities and endeavour to come to



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arrangements with the various proprietors as to the purchase price of their land. This department is now working smoothly, and the greater majority of the proprietors have accepted our terms, which, compared with the previous purchases through the same localities, appear to be most just and fair.

The construction has progressed steadily and satisfactorily, although, owing to the loss of the winter months of 1905-6, the contractors were not in a position to haul their supplies to those portions of the work far removed from settlement, particularly from La Tuque westerly, and consequently I am certain that the whole of the 150 miles west of the Quebec bridge will not be completed within the time specified.

At the end of March the contractors had the following men, horses and plant on the work:—

Men . . . . .	3,297
Horses . . . . .	839
Carts . . . . .	146
Wagons . . . . .	244
Dump cars . . . . .	123
Rock drills . . . . .	261
Derricks . . . . .	3
Steam shovels . . . . .	1
Pile drivers . . . . .	5

During the season of 1906 we received at Quebec several consignments of steel rails and other track material, which we redistributed to Belair, St. Basile and Hervey Junction, and which will enable the contractors to go on with their track-laying as soon as the snow is off the ground.

I attach hereto a statement showing the mileage of different descriptions of line run to the end of March, 1907:—

	Miles.
Exploration lines . . . . .	1,400·64
Preliminary lines . . . . .	2,791·65
First location lines . . . . .	635·94
Revised location lines . . . . .	686·30
Final location lines . . . . .	369·37

A. E. DOUCET,  
*District Engineer, 'B.'*

DISTRICT 'C.'

The survey work on this district has been continued and a first location throughout the entire district completed, with the exception of a few miles near the headwaters of the Gatineau river.

The accompanying report of Mr. A. N. Molesworth, district engineer, gives details of the work done by the several survey parties.

A contract for the construction of the westerly 42 miles in this district was awarded to the Grand Trunk Pacific Railway Company in March, 1907, but work cannot be started until the spring.

HUGH D. LUMSDEN, Esq.,  
Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—Herein I have the honour to submit a report of the progress of preliminary and location surveys on District 'C,' from the 1st of July, 1906, to the 31st of March, 1907.



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The engineers in the field have, during the past year, done very good work. Several preliminary lines have been run over the whole district, and first location over all but a few miles between the Soucie river and the east fork of the Gatineau river. Revised location has been run over 90 miles, and a party under Mr. W. D. Robertson is now engaged in running final location, and has run 25 miles to date. We hope to have all our surveys completed this season.

Our line when finally located will be very good, all coming within the maximum grades and curvature, and the work on two-thirds of the district is not at all heavy.

Party No. 1 in charge of Mr. A. L. McDougall finished close preliminary line through a connection with party No. 2 near the northeast fork of the Gatineau river, after which they made a first location over this division. They found a very good line considering the rough country and cut off several miles in distance on their location.

Party No. 2 in charge of E. B. Haycock after running several preliminary lines over the east end of his division, and after a great deal of hard work, found a line through in a more direct course than any line run during the previous surveys.

He started location last January and has run up to date about 20 miles. This is the only division on the district which has not had first location completed, owing to the great difficulties in getting from the Oskaleano waters over to the Gatineau. A great many preliminary lines had to be run before one was found which proved satisfactory. The line as now laid out will cut off several miles in distance and is very much superior to any of the lines run last year.

Party No. 4, in charge of I. J. Steel, after making connection with party No. 2's survey on June 30, 1906, moved west about 20 miles and ran preliminary lines both to the north and south of the former survey in an endeavour to improve the line, after which he ran first location over his division, and is now engaged in revising line located by W. H. Maher in charge of party No. 5.

Party No. 5A, which had just arrived on the ground and got well started on the 1st July, continued their location eastward from the Megiskan river until they connected with party No. 4. They made this connection on the 29th of December, when the party was called in and disbanded. They also did very good work and improved the preliminary line to a very considerable extent.

Party No. 6, in charge of R. F. Davy, had just commenced revising location eastward from the Hurricanaw river when last report was made. He continued this revision eastward until he made connection with party No. 5A near Millie lake, which point he reached on December 28, 1906, when his party was called in and disbanded. Mr. Davy made some very important improvements on his revision of W. P. Wilgar's location, particularly in the vicinity of Bell river, where there was a big bend in the former location. He managed to locate just as good a line in a more direct course, saving two miles in distance.

Mr. W. D. Robertson reorganized party 6 on January 17, 1907, and proceeded via Grand Lake Victoria to a point near Millie lake to run final location through from that point to the west end of District 'C.' He had a great deal of trouble in getting his outfit and supplies forwarded to his starting point on account of bad weather, arriving there about the middle of February, and has up to date run 25 miles of final location, improving the old location in places materially.

Party No. 8, in charge of W. D. Robertson, which had just moved south of Lake Makamik on the 30th of June last to try another line from west end of district to a common point about 50 miles eastward—this preliminary line was pushed through and as it would make a much more direct route than the line further north, it was considered advisable to locate it. This, Mr. Robertson proceeded to do and completed the first location by October 18, 1906. His party was then called in and disbanded for a time.

Party No. 8 was reorganized January 10, 1907, in charge of Noel Tooker, and sent out to revise location of line south of Lake Makamik. They had great difficulty



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in reaching their starting point as the weather was exceptionally bad, but they finally arrived early in February with their outfit and a month's supplies. This party has up to date revised about 20 miles, making some important improvements in the line.

TRANSPORT DEPARTMENT.

The transport department on District 'C' has done very efficient work during the past year, and all the parties in the field have at all times been well supplied with provisions, &c. During the winter just passed we cut new roads further in towards the line, so that our supplies could be delivered so much nearer their destination by teams during the winter months. From the end of these roads they are distributed to the various caches we have along the proposed line, they being on an average of about 25 miles apart.

CASUALTIES.

I am glad to say that I have no deaths to report on District 'C' during the past year, and we have had very little sickness considering the hardships the men, under the best circumstances, have had to endure.

I attach herewith a report and description of lines run from July 1, 1906, to March 31, 1907.

TOTAL MILEAGE OF SURVEYS RUN JUNE 30, 1906, TO MARCH 31, 1907.

Party.	Exploration Lines.	Preliminary Lines.	1st Location Lines.	Rev. Location Lines.	Final Location Lines.	Total.
1A.....	6·50	73·70	40·00	.....	.....	120·20
2.....	21·03	90·82	20·60	.....	.....	132·45
4.....	27·70	76·10	16·25	19·50	.....	139·55
5A.....	38·00	54·75	51·25	.....	.....	144·00
6.....	29·40	27·70	22·56	50·35	15·00	145·01
8.....	23·20	75·75	28·66	15·94	.....	143·55
Total... ..	145·83	398·82	179·32	85·79	15·00	824·76

A. N. MOLESWORTH,  
*District Engineer—'C.'*

DISTRICT 'D.'

From the following report of Mr. S. R. Poulin, district engineer, it will be seen that the surveys on this district are nearly completed, with the exception of the final location, and it is expected that this will be completed early in September. A contract for the construction of say 108 miles from the western boundary of this district to a point about 8 miles westerly from the crossing of the Abitibi river was awarded in March to the Grand Trunk Pacific Railway Company, but as yet no work has been done on it.

HUGH D. LUMSDEN, Esq.,  
Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—I have the honour to submit the following report of the work done in my district from the 1st of July, 1906, to the 31st of March, 1907:—

On the 1st of July, 1906, six parties, Nos. 2, 4, 5, 6, 7 and 8, were in the field and did the following work on the present adopted middle route:—



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Party No. 2 completed the alternative first location south of Makamik lake from mile zero, at the east end of District 'D,' to mile 50 by the 10th of October, and according to your instructions, Mr. Moberley, engineer in charge, was instructed to revise the location of party No. 4, Mr. Goodwin, from mile 50 to mile 98, the Abitibi river crossing. This he completed on March 12, and being on the ground at the time, I advised Mr. Moberly to run 10 miles of final location eastward from the said crossing, and then come out and disband temporarily his party. This was done, himself and party arriving at McDougall's chutes on the last day of March.

Party No. 4 completed the alternative first location on the middle route from mile 50 to mile 98, and on October 12 Mr. Goodwin was also instructed to revise the location of party No. 5, Mr. G. F. Hanning, from mile 98, the Abitibi river crossing, to mile 134, Mattagama river. Mr. Goodwin completed this, and also ran an alternative line from mile 120 westward to connect with a new location of party No. 6, which passes north of Departure lake and crosses the Mattagama river some 4 miles north.

Mr. Goodwin and party returned to the Abitibi river crossing at the beginning of March. According to instructions he finally located the line from Abitibi river crossing eastward as far as the boundary line between the districts of Nipissing and Algoma. This he completed by the 30th of March. The same party will continue the final location from the 88th mile eastward.

Party No. 5, under Mr. G. F. Hanning, completed the first location from mile 112 to 144, or to a point west of Poplar river, the line passing south of Departure lake. On September 12, 1906, Mr. Hanning was instructed to revise the alternative first location of party No. 2 south of Makamik lake, mile zero to mile 50. This was completed January 20, 1907. The same party then revised Mr. Moberly's first location on the line north of Makamik lake from mile zero to the junction of these two lines at mile 25. This latter revision was done at your suggestion in order to reach a final decision as to the respective merits of the two locations, the one north and the other south of lake Makamik. Mr. Hanning completed this work and returned to McDougall's chutes with his party on March 28. He proceeded at once to Abitibi river crossing, and will continue the final location west of the boundary between the districts of Nipissing and Algoma.

Party No. 6, under Mr. A. F. Cotton, completed a preliminary line on the middle route from mile 160 to mile 175, and ran the first location from mile 144 to mile 165. Mr. J. Aylen, assistant district engineer, suggested a line from the Ground Hog river, passing north of Departure lake. This line was also run by Party No. 6 and completed in November. It proved a better line than the one south of Departure lake.

Mr. Robert Laird then took charge of the party for the revision. He revised the location of party No. 6 from mile 165 eastward to the Mattagama river, adopting the location north of Departure lake. He ran a location from the north end of Departure lake to the south location, joining it at the crossing of the Muskego river by the said location. He also ran a location from the north end of Departure lake to the Mattagama river, crossing the latter river at the first rapid below the mouth of the Muskego river. He produced this line east of the Mattagama river and connected it with that of Mr. Goodwin's party (4) on the 25th of March. According to instructions he then brought his party out, which was disbanded at the end of March.

Party No. 7, Mr. Robert Laird, engineer in charge, completed the preliminary line on the present route from mile 165 to 175. Mr. Laird also ran the first location over the same distance. Mr. Butler and Mr. Cummings at different intervals then took charge of the party and revised the location from mile 165 to mile 213. Mr. Butler, who was then in charge, was instructed to come out and disband the party as soon as the revision would be completed. This was done, and the party arrived at North Bay on the 3rd of April, 1907, and was disbanded.

Party No. 8, under Mr. Butler, completed the first location from mile 199 eastward to the Kapuskasing river, mile 175. This was finished in October. The party was then instructed to move back to mile 213 and do the revision. Mr. Cotton took charge



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of the said party for the revision, and he moved to the western end of the district and started from the location of party No. 8, District 'E.' His instructions were also to come out with the party as soon as the work of revision was done. He completed his revision from the western end of the district to mile 213 on the 25th of March, and arrived at North Bay on April 3, when the party was disbanded.

The result of all these surveys proves that the country in District 'D' has been thoroughly examined from one end to the other, and we have now, what I consider the best line obtainable in this district. The great quantity of snow makes it impracticable to lay down the final location, as it would involve the necessity of going over the whole of it in the summer, hence my recommendation to disband these four parties at the present time. We have all the necessary data for the final location which will follow almost all the revised locations, or at a very little distance from the same. We have kept well within the required gradients of 0.4 per cent adverse to eastbound traffic and 0.6 per cent adverse to westbound traffic, while we have no curvature over a 3° curve in the whole district. The alignment is very direct, the distance being under 4 per cent over an air line from one end of the district to the other.

The work of grading throughout the whole district may be classified as medium, but the bridging, on account of the numerous branches of the Moose river, will be pretty heavy. The timber along the revised location is the same as described in previous reports.

TRANSPORT.

As all our supplies were mostly delivered in the winter months of 1907, we have experienced no difficulty with transportation. I have received some complaints from the west end of the district with regard to some of the meats, a certain quantity being tainted and discarded. This I am trying to investigate as to whether it was the fault of the shipper or of the contractor for the transportation of supplies. We have had sufficient supplies delivered this winter to complete the final location from mile zero to mile 145, except in the line of meat, which was reduced on account of the greater facility we have now to forward same in the summer months.

CASUALTIES.

I regret to have to report the death of one of my transport officers, the late Mr. Geo. H. Starnes, who died from injuries received in a railway accident on the Temiskaming and Northern Ontario Railway on the 6th of July, 1906.

Also the death of Mr. Adelard Laviolette, of L'Orignal, Ontario, by drowning on the 17th of November, 1906, in the Kapuskasing river.

For your information I attach to this report a table giving the description and mileage of various lines run from the 1st of July, 1906, to the 31st March, 1907, and also a progress sketch of the preliminary surveys, first location, revised and final location done during the year.

TOTAL MILEAGE OF SURVEYS RUN JUNE 30, 1906 TO MARCH 31, 1907.

Party.	Exploration Lines.	Preliminary Lines.	1st Location Lines.	Rev. Location Lines.	Final Location Lines.	Total.
2.....		91.0	91.5	57.7	10.0	250.2
4.....		56.0	62.1	16.0	11.0	145.1
5.....	1.3	34.0		75.3		110.6
6.....	28.8	49.5	19.0	18.0		115.3
7.....	3.0	29.5	29.7	45.0		107.2
8.....	2.5	21.8	28.2	35.0		87.5
Total.....	35.6	281.8	230.5	247.0	21.0	815.9

S. R. POULIN,  
District Engineer 'D.'



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## DISTRICT 'E.'

Four survey parties were working in this district until the end of February when party No. 2 was disbanded. The first location and revision is about completed, and it is expected the final location of the line throughout this district will be completed by September.

The following report of Mr. T. S. Armstrong, district engineer, gives the details of the work done by the several parties.

HUGH D. LUMSDEN, Esq.,  
Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—I have the honour to submit the following report of the work carried on in District 'E' from the 1st of July, 1906, to the 31st of March, 1907.

This district begins at a point 5 miles east of the Kebinakagami river and runs west to the height of land, which divides the waters flowing into Nepigon lake from those running north into Hudson Bay.

The length of District 'E' is 258.4 miles.

On July 1, 1906, there were four parties in the field:—

Party No. 1, moved to Pegatchewan river July 1, working east on first location, Mr. W. H. Mitchell in charge. In August he came out and was replaced by Mr. A. McLellan. On October 4 the party met party No. 2 at Negogami branch and continued eastward revising the location of party No. 2. On January 3 party No. 1 started west on final location and reached Pegatchewan river, mileage 60, on March 31, 1907.

Party No. 2 started first location under Mr. R. D. Fry at east end of district on July 1, 1906, and met party No. 1 on October 4 at Negogami branch, 33.75 miles west from zero, and continued westward revising first location of party No. 1 until February 28, when the party was disbanded on the 100th mile. They reached Jackfish station on the Canadian Pacific Railway on March 8, 1907.

Party No. 3, under Mr. H. M. Balkam, started at the Red Paint Summit on July 1, running first location westerly. Several weeks were spent on trial lines in the vicinity of Kawakashkagama river until the present line was adopted and location run to Robinson lake and connected with party No. 4. Mr. Wilgar succeeded Mr. Balkam in August, and the party turned and ran east revising line previously run, until within 7 miles of Jackfish lake, when the party was moved west to Robinson lake, commencing revision westward on first location line of Party No. 4. On January 21, 1907, several weeks were spent around Grassy creek and improvements made. The party reached mile 23 west of Robinson lake, March 31, 1907.

Party No. 4 under Mr. J. S. Tempest, on July 1 was at Grass Creek, mile 78, running easterly on first location from the west end of district to Robinson lake, which point was reached July 31, 1906. The party then moved west and ran several preliminary lines at Grassy creek, securing information which was useful to party No. 3 on revision, then from there to the west end of district, and on August 23 commenced running preliminary lines into District 'F' to make a good connection with their surveys, and then finished a location of 10 miles on October 3 on these lines which was an improvement on south line connecting with this district. October 10 to November 30 was spent in making alternative location mile 9 to 23. The party, then moved to White Sand and Mud rivers and ran preliminary lines with a view to improving first location, and a projected location shows considerable improvement and work will be utilized by party No. 3 on revision. Revision on party No. 3's work commenced February 6, east of Robinson lake, and on March 31 had made a revision of 11 miles, showing considerable saving.



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WORK DONE BY PARTIES.

Party.	Exploration Lines.	Preliminary Lines.	1st Location Lines.	Rev. Location Lines.	Final Location Lines.	Total.
1.....	36.9	24.7	34.6	44.3	60.0	200.5
2.....		37.8	34.0	74.5		146.3
3.....	21.4	168.0	52.1	30.4		271.9
4.....	8.0	69.5	42.1	26.1		145.7
Total.....	66.3	300.0	162.8	175.3	60.0	764.4

The country between the east end of district and English, or Kenogami, rivers consists principally of clay or loam, and grading is light; from Kenogami to Red Paint Summit the work is heavier, with some rock, the most important part of the work being the bridges. From Red Paint Summit to Robinson lake considerable rock occurs. From Robertson lake west the work is principally rock to the west end of district, the country being cut up by rock ridges and innumerable lakes, requiring considerable curvature and more broken grades. A good line has been located over the whole of the district, and I hope on final location to show considerable improvement.

Grades do not exceed 0.4 per 100 feet, or 21.12 feet per mile against eastbound traffic, and 0.5 per 100 feet, or 26.4 feet per mile against westbound traffic, except in a few instances where it is 0.6 per 100 feet, or 31.6 feet per mile.

Grades on curves are compensated at the rate of four hundredths of a foot per degree of curvature.

Curves on located line will not exceed 4° or 1,433 feet radius.

The following is a list of bridges required over rivers and streams in this district, as shown on first location:—

Name.	Length. Feet.	Height. Feet.
St. Joseph river.....	50	7
Kebinakagami river.....	250	34
Leonard lake.....	200	20
River.....	45	10
White river.....	200	28
Skunk river.....	710	76
Negogami river.....	325	61
Negogami branch.....	80	30
Bad river.....	270	20
Pegatchewan river.....	400	48
Dof river.....	75	14
Moose river.....	75	16
Flint river.....	100	11
Black river.....	50	6
English river.....	380	49
River.....	50	7
River.....	45	13
Braggan creek.....	60	33
Twin river.....	40	12
River.....	40	6
River.....	24	12
Kawakashkagama river.....	125	7
Johnson river.....	25	7
Johnson river.....	24	7
Creek.....	615	4



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Name.	Length. Feet.	Height. Feet.
Spruce creek. . . . .	24	15
Ombabika river. . . . .	80	13
Sapasoose creek. . . . .	30	8
Sapasoose creek. . . . .	24	8
Camp creek. . . . .	585	62
Roaring creek. . . . .	510	84
Jackfish river . . . . .	480	50
Seymour creek. . . . .	100	25
Mud river. . . . .	490	74
White Sand river. . . . .	100	20
Burnt creek. . . . .	305	30

TRANSPORT.

There are thirteen caches on this district, and these were provisioned for one year last June. The transport of these supplies was let by contract, and has given satisfaction.

The supplies for the coming year have been received and transported by sleighs to the different depots by the contractors ready for distribution, and on opening of navigation will be forwarded to destination.

CASUALTIES.

The only death during the year was that of the caretaker of the district office, who was accidentally shot and killed while in one of the stores in Nepigon.

Last winter there were two cases of frozen feet caused by slush on the lake:

H. R. Gullivan, going into Party No. 4, and D. Ward, mail-carrier for Party No. 1, Both of these men are now at work.

H. Nesbit, Party No. 2, shot himself through the hand, necessitating his leaving the party and going to his home.

Mr. J. S. Tempest, engineer in charge, Party No. 4, cut himself with an axe and was laid up two or three weeks, but is now recovered.

The medical officer has attended to all ailments, and the health of the district generally has been very satisfactory.

From July 1, 1906, to the middle of November the district was in charge of Mr. C. F. Hanington, acting district engineer, and on November 13 I was notified by you of my appointment by the Commissioners to the position of district engineer, and took charge November 18.

T. S. ARMSTRONG,  
*District Engineer, 'E.'*

DISTRICT 'F.'

Four parties were employed on the surveys from Lake Superior junction to a point 136 miles easterly until early in March, when they were disbanded. Parties will be sent out again as soon as the snow goes, and the final location should be completed in three or four months.

The construction of the 244 miles from near Peninsula crossing westerly to near St. Boniface, which was awarded to Mr. J. D. McArthur in 1906, has been proceeded with, but the progress so far made has not been satisfactory, and I have been pressing the contractor to largely increase his force.

The accompanying report of Major A. E. Hodgins, district engineer, gives details of the work done on his district.



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HUGH D. LUMSDEN, Esq.,

Chief Engineer, Transcontinental Railway,  
Ottawa, Ont.

SIR,—I have the honour to submit the following report of work on construction and location on District 'F,' from the 1st of July, 1906, to the 31st of March, 1907.

#### CONSTRUCTION.

The work under contract to Mr. J. D. McArthur has been divided into 5 divisions, and subdivided into 21 residences. Residences are about 20 miles on the prairie, and 10 miles on the heaviest portions.

Log houses for resident engineers and division engineers have been built. In most cases these houses were built by axemen on parties during the time they were waiting for contractors to clear the right of way. Supplies for engineers have been stocked until after the spring break-up.

I have been able to show a reduction in cost from revision surveys since my last report. In some instances the soundings shown on location profiles of bay crossings were found to be deeper when sounding rods were put down through ice, soundings from canoes or rafts being very difficult in deep water.

Revision has made it necessary to add a few tunnels. Revision shows a saving over previous estimated cost of \$1,041,116.

Work on the first 40 miles west of Peninsula Crossing (mile 0) has been sub-let since the first of this year, but from mile 0 to mile 20, only one cutting has been opened up, the balance has been opened up in places. From mile 40 to mile 50 very little work has been done. From mile 50 to mile 80 has been fairly well covered by men.

#### PRAIRIE SECTION.

The prairie section from St. Boniface to the Canadian Pacific Railway overhead crossing, mile 180, near Lake Moultrie was not completed last fall, and no track laying (except 2 miles of sidings) has been done. I expect to have 70 or 80 miles of track laid this year from St. Boniface east. Slow progress has been due chiefly to the lack of labour in the country.

I understand Mr. McArthur has now sub-let the whole of his contract.

#### PROGRESS ESTIMATES.

During the months of February and March there has been a very satisfactory increase in the amount of work done by contractors, as shown by the progress estimates, and a large amount of contractors' supplies have been hauled to sub-contractors' camps over sleigh roads.

#### MOULTRIE SPUR.

A spur track connecting the Canadian Pacific Railway with our main line has been put in near the overhead crossing, and a material yard for rails, ties and bridge timber will be made in the spring. This connection will save the haul on rails over the Canadian Pacific Railway to St. Boniface and back over our line to the overhead crossing. The distance from this spur to St. Boniface via Canadian Pacific Railway is about 80 miles; via Transcontinental Railway about 65 miles.

Supplies for residencies have, in most cases, been hauled by contractors' teams. Dog teams used last winter have been transferred to location parties east of Lake Superior junction. In summer supplies will be forwarded by steamboats on the Winnipeg river and Mannitaki lake, and by canoes where there are no wagon roads.

As construction caches are now located at or near engineers' camps, the position of assistant cache-keeper has been done away with.



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CONSTRUCTION CACHES.

Ingolf cache was destroyed by fire on March 4 last, the supposed cause being defective stove pipe. The cache keeper had gone to the section house a short distance away, and reports that he left the stove damper closed. Owing to the heat he was unable to save anything. The building was built of timber covered by vulcanite.

POLICE.

Since the proclamation prohibiting the sale of liquor within a limit of 20 miles of the line a commissioner of police and six constables have been appointed.

Liquor is still being shipped from Kenora to individuals on the line in gallon jars, or by the case, and it is impossible for our constables to stop this, owing to the difficulty in proving that it is sold within the 20-mile limit. Kenora is inside the limit, but it is not included in the proclamation, as it is an incorporated town.

LOCATION.

Four parties have been working on first location and revision between Lake Superior Junction and a point 136:15 miles east. Revision was completed, and parties disbanded until spring.

Revision shows a very direct line and quantities for fairly light work. One party was disbanded in February, and three others in March.

TABLE OF WORK DONE ON LOCATION.

Party.	Explora- tion Lines.	Prelim- inary Lines.	1st Loca- tion Lines.	Rev. Loca- tion Lines.	Final Location Lines.	Total.
2 .....	.....	10·52	19·73	16·04	.....	46·29
2 .....	.....	25·44	25·47	13·31	2·36	66·58
5 .....	18·00	21·10	25·95	34·40	.....	99·45
10 .....	29·50	24·51	35·20	31·64	18·27	139·12
Total.....	47·50	81·57	106·35	95·39	20·63	351·44

The distance between Lake Superior junction and end of these surveys is 136·15 miles. Revision as far as Lookout river, mile 105. From Lookout river east to mile 136:15, two lines have been run and submitted for your approval.

Alteration in the position of Lake Superior Junction has been suggested by the Grand Trunk Pacific engineers. From our estimates this will increase the cost of construction on 27:7 miles of our main line an additional \$14,000 per mile, or a total additional cost of \$386,000, and also add one mile to the length of our line. We have already shortened the Grand Trunk Pacific branch 11 miles, and eliminated two heavy crossings of the English river, Had I not found a cheaper and shorter route via Peninsula crossing I would not have abandoned the route via Sioux Lookout the Grand Trunk Pacific now propose we should take.

My objections to Sioux Lookout crossing are not only on account of the expensive crossing, but also on account of the bad alignment, there being a 6° reverse curve at the river.

An alternative line has been run which will do away with the Sioux Lookout crossing and join our line east of Peninsula crossing. I am having another line run to ascertain if there is a possible crossing between the two lines referred to.



LOCATION TRANSPORT.

Owing to the longer distances to transport supplies to location parties, transport was more difficult than on the portion under construction.

There are two main transport routes to location parties, one via Minnitaki lake from Dinorwic station, and the other via Sturgeon lake from Osquan station.

On the former route steamboats in summer and teams in winter transported supplies to Abram's chute, and from there to Pelican falls and Dog lake caches, forwarding was done by canoes or dog teams.

On the latter route supplies for the Grand Trunk Pacific branch and for some mining companies on Sturgeon lake, as well as ours, were being transported by the same contractors, the result being that it was necessary for me to put on our own canoes during the last month of navigation to assist the contractors, and four dog teams in winter to get the supplies stored in Trapper's Cabin and Allan Water caches. Supplies are now stored in all location caches to enable parties on location to resume work after navigation opens about May 28.

The health of the men on construction and location has been good, and there have been fewer accidents and less sickness than during the previous year.

CASUALTIES.

There have been a considerable number of accidents to labourers in contractors' camps, mainly due to the carelessness of the men themselves in handling dynamite, and to some extent on account of liquor being in the camps.

You will see by the attached list that there have been 17 men killed and 26 injured since April, 1906.

Date.	Division.	Killed.	Injured.	Cause of Accident.
1906-07.				
April 14....	No. 8. ....	3	.....	Premature explosion.
Nov. 18....	6.....	.....	1	" "
" 23....	7.....	.....	1	" "
Jan. 4....	8.....	1	.....	Falling rock.
" 9....	7.....	.....	1	Struck by stone boat.
" 12....	7.....	.....	1	Premature explosion.
" 16....	7.....	4	3	" "
" 24....	7.....	.....	1	Felling trees.
Feb. 1....	7.....	.....	1	Premature explosion.
" 1....	8.....	1	.....	Falling rock.
" 7....	6.....	.....	1	Premature explosion.
" 13....	6.....	.....	1	" "
" 18....	7.....	.....	1	Falling rock.
" 19....	5.....	2	.....	Premature explosion.
" 23....	7.....	.....	1	" "
" 28....	7.....	1	.....	Flying rock.
" 28....	6.....	.....	2	Derrick broke.
Mar. 1....	8.....	1	.....	Drill falling on dynamite.
" 1....	9.....	1	.....	Premature explosion.
" 7....	9.....	.....	1	" "
" 8....	6.....	.....	2	" "
" 8....	5.....	1	3	" "
" 9....	9.....	1	.....	Blasting.
" 15....	7.....	.....	1	Premature explosion.
" 21....	7.....	.....	1	Crushed by rock.
" 28....	7.....	.....	2	Premature explosicn.
" 29....	7.....	1	1	" "
Total.....		17	26	

A. E. HODGINS,  
District Engineer, 'F.'



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A first location has now been completed throughout the entire distance from Moncton, N.B., to St. Boniface, Man. (with the exception of about 50 miles in District 'C,' where we have a number of preliminary lines), and over a very large proportion of this a revised location has also been made, and by the end of August I hope to be in a position to submit for the approval of the Governor General in Council a route map covering all the portions not yet approved.

The portions approved, and covering which contracts for construction have been awarded up to the 31st of March, 1907, being as follows:—

	Miles.	Total Miles.
<i>New Brunswick—</i>		
Moncton westerly.. . . . .	50	
Quebec boundary easterly.. . . . .	62	
	—————	112
<i>Quebec—</i>		
Quebec bridge easterly.. . . . .	150	
Quebec bridge westerly.. . . . .	195	
Westerly boundary Quebec easterly.. . . . .	72.25	
	—————	417.25
<i>Ontario—</i>		
Easterly boundary westerly.. . . . .	77.75	
Westerly boundary easterly.. . . . .	160.39	
	—————	238.14
<i>Manitoba—</i>		
Easterly boundary westerly.. . . . .	84.61	84.61
		—————
Total.. . . . .		852.00

CONSTRUCTION.

In regard to the progress made on construction under the first contracts awarded in 1906 to Messrs. Hogan & Macdonell for the 150 miles westerly from the Quebec bridge, the progress of the grading has been fairly good, and a large proportion of concrete work for bridges and the pedestals of the Cap Rouge viaduct have been completed, and though the obtaining of suitable foundations for the larger spans crossing the Cap Rouge river has been the cause of considerable extra work and the cost over what was originally estimated, I do not anticipate they should delay the erection of the steel superstructure by the Dominion Bridge Company to any great extent, as a large proportion of the steelwork is already prepared.

In regard to the contract for the 245 miles awarded to Mr. J. D. McArthur in May, 1906, the progress has not been satisfactory. This is, no doubt, partially due to the scarcity of labour and the difficulty in obtaining a sufficient number of men experienced in rock excavation, but there also seems to have been a lack of supervision on the part of the contractor. The force of men and equipment for the carrying out of a work of this magnitude by the date stipulated is altogether insufficient.

Great difficulty has been experienced in obtaining the necessary ties for these contracts, especially in western Ontario and Manitoba. In September last we had, in response to advertisement, received offers for 750,000 ties for delivery between Peninsula crossing and the Manitoba boundary, but owing to the action of the Ontario government in declining to issue permits to cut ties, only one of the four parties tendering found themselves in a position to carry out their offer. This party was Robert Bates, of Kenora, Ont., whose offer covered 100,000 ties for delivery west of the Winnipeg river crossing, at a price of 40c. for 1st class and 35c. for 2nd class ties, and a contract was awarded to him accordingly.

For the 150 miles westerly from the Quebec bridge a contract was made with Mr. John C. Hearn for the delivery of 210,000 ties during the year 1906 at various points for the sum of 50 cents each for 1st and 46 cents for 2nd class ties. Another



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contract was made with him for the delivery of 335,000 during 1907 at 57 cents for 1st and 44 cents for 2nd class ties.

As a first location has been practically completed throughout the entire length of line from Moncton to Winnipeg I am now in a position to give an approximate table of distances throughout. This table will be found attached.

From this it will be seen that if my recommendation in regard to the adoption of two pusher grades, one from near the Tobique river easterly, and the other from near Lake Pohenegamook westerly, be approved of, the total distance from Moncton to St. Jean Chrysostome will be 453.65 miles, as against 487.5 by the Intercolonial Railway, and the through distance from Moncton to Winnipeg will be 1,517.6 miles, as against 1,890 miles originally estimated. These distances may be somewhat reduced at various points by the final location, but I do not anticipate any very great change from the above figures.

In conclusion I regret to have to report the following casualties during the past year :

Mr. Geo. H. Starnes, district transport officer, District 'D,' was killed in a railway accident on the Temiskaming and Northern Ontario Railway on July 6, 1906, while travelling on the business of the commissioners.

Adelard Laviolette of L'Orignal, Ont., employed as packer on party No. 8, District 'D,' was upset out of a canoe and drowned in the Kapuskasing river on November 17, 1906.

Shang (Chinaman) employed as caretaker of district offices at Nepigon was accidentally shot and killed in one of the stores at Nepigon on March 22, 1907.

I have the honour to be, sirs, your obedient servant,

HUGH D. LUMSDEN,  
*Chief Engineer.*



NATIONAL TRANSCONTINENTAL RAILWAY.

TABLE OF DISTANCES BETWEEN MONCTON AND WINNIPEG.

		Taking Centre Route Standard Grade in New Brunswick.			
	St. John River Route.	Mileage between Points.	Through Mileage.	Mileage from Quebec Bridge	District Totals
A	Thro Mile-age.				
Moncton.....	0	0	0		
Chipman Jcn.....	55·96	55·96	55·96		
(a) Tobique River.....		125·41	181·37		
Fredericton.....	102·90				272·31
Grand Falls Jcn.....	240·71	30·10	211·47		
New B. & Que. Bdy.....	301·55	60·84	272·31		
B					
(b) Lake Pohenegamook.....		28·76	301·07		
R. du Loup Crossing.....		54·18	355·25		
St. Chrysostome I. C. R. Station.....		134·40	489·65		
N. abut. Quebec Bridge.....		5·60	495·25		421·44
La Tuque .. .. .		124·	619·25	124·	
Weymontachene.....		74·50	693·75	198·5	
C					
Gatineau River East Br.....		48·3	742·05	246·8	
Kekek River.. .. .		74·8	816·85	321·6	
Bell River.....		71·3	888·15	392·9	276·
Harricanaw River.....		44·8	932·95	437·7	
District Bdy. C. & D.....		36·8	969·75	474·5	
D					
Que. & Ont. Bdy.....		29·95	999·70	504·45	
Nipissing & Algoma Bdy... ..		78·3	1078·	582·75	249·05
District 'D' & 'E' Bdy.....		140·8	1218·80	723·55	
E					
English River.....		87·5	1306·30	811·05	
Robinson Lake.....		91·	1397·30	902·05	248·25
Mattice Lake .. .. .		69·75	1467·05	971·80	
F					
Peninsula Crossing.....		136·76	1603·81	1108·56	
Superior Junction.....		2·6	1606·41	1111·16	
St. Boniface (E. limit).....		244·2	1850·61	1355·36	386·56
Winnipeg.....		3·	1853·61	1358·36	

NOTE.—  
(a) Possible saving of 17·2 miles by use of 1<sup>1</sup>/<sub>10</sub>% comp. grade adverse to east bound traffic.  
(b) Possible saving of 18·8 miles by use of 1<sup>1</sup>/<sub>10</sub>% comp. grade adverse to west bound traffic.



SESSIONAL PAPER No. 39a

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

STATEMENT of Cash Disbursements for the nine months ended 31st March, 1907.

	Contracts.	Accounts Payable.	Pay Rolls.
July...		36,543 01	9,492 21
August...	239,292 89	87,639 93	74,498 63
September...	192,975 34	42,495 16	69,234 83
October...	397,608 74	74,705 71	71,809 39
November...	531,496 74	94,866 37	65,803 54
December...	817,114 30	81,435 86	65,983 44
January...	361,092 87	234,409 86	78,793 27
February...	339,771 82	130,211 08	70,894 57
March...	471,917 86	89,930 95	76,175 07
April, for 1906-07	629,950 08	57,316 16	61,273 48
May, for 1906-07	12,419 42	25,138 29	2,966 12
	3,993,640 06	954,692 38	646,924 55

SUMMARY.

Cheques issued for contract account.....	\$3,993,640 06	
Cheques issued for accounts payable.....	954,692 38	
Cheques issued for pay rolls.....	646,924 55	
	5,595,256 99	
Less amount deposited to credit of Receiver General.	57,389 49	\$5,537,867 50

D. HOCTOR,  
Chief Acct.

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

STATEMENT of Expenditure for the nine months ended March 31, 1907.

Summary—Detailed Statements attached.

Headquarters, Ottawa..	\$ 166,191 03	
		\$ 166,191 03
Location—District ‘A’..	48,647 54	
“ “ ‘B’..	152,768 15	
“ “ ‘C’..	107,505 74	
“ “ ‘D’..	94,980 05	
“ “ ‘E’..	64,155 71	
“ “ ‘F’..	87,839 05	
		555,896 24
Transport service—District ‘A’..	000 00	
“ “ “ ‘B’..	8,042 85	
“ “ “ ‘C’..	80,477 19	
“ “ “ ‘D’..	29,316 88	
“ “ “ ‘E’..	88,588 79	
“ “ “ ‘F’..	19,494 88	
		225,920 59
Construction—District ‘A’..	123 90	
“ “ ‘B’..	2,726,137 73	
“ “ ‘F’..	1,863,598 01	
		4,589,859 64
Total expenditure..		\$5,537,867 50

D. HOCTOR,  
Chief Accountant.



THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

STATEMENT of Liabilities on March 31, 1907.

Ten per cent reserved on contracts:—

District 'B'.. . . . .	\$222,999 68	
"    'F'.. . . . .	129,193 06	
	<hr/>	\$352,192 74
Outstanding time cheques.. . . . .	\$    704 67	
	<hr/>	\$    704 67
Wages advanced to employees, collected from pay-rolls, not yet claimed by the officers making such advances.. . . . .	\$    78 55	
	<hr/>	\$    78 55

CONTINGENT LIABILITIES.

Amount of unclaimed cheques of 1904-5 deposited to the credit of the Receiver General.. . . . .	\$    170 35	
"    "    "    1905-6.. . . . .	168 85	
	<hr/>	\$    339 20
		<hr/>
		\$353,315 16
		<hr/>
		<hr/>

D. HOCTOR,  
Chief Accountant.

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

STATEMENT of Expenditure for the nine months ending March 31, 1907.

Headquarters, Ottawa.

Commissioners and staff.. . . . .	\$23,624 82
Accounting department.. . . . .	9,922 95
Purchasing " .. . . . .	7,934 65
Engineering " .. . . . .	29,355 88
Transport " .. . . . .	3,067 70
Travelling expenses.. . . . .	3,325 37
Rent.. . . . .	7,823 25
General expenses.. . . . .	33,122 17
Supplies.. . . . .	4,902 67
Furniture and fixtures.. . . . .	929 37
Freight and express.. . . . .	1,683 07
Telegraph and telephone.. . . . .	2,259 55
Insurance—Fire and Fidelity .. . . . .	282 21
Legal expenses.. . . . .	3,528 80
Advance account.. . . . .	34,428 57
	<hr/>
	\$166,191 03
	<hr/>
	<hr/>



SESSIONAL PAPER No. 39a

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

STATEMENT of Expenditure for Location and Construction for the nine months ended  
March 31, 1907.

*District 'A.'*

Engineering.. . . .	\$40,240 65
Supplies.. . . .	3,895 89
General expenses.. . . .	3,368 46
Freight and express.. . . .	535 85
Camp outfit.. . . .	354 89
Furniture.. . . .	119 07
Medical fees.. . . .	43 00
Transportation.. . . .	13 93
Shop machinery and tools.. . . .	75 80
	<hr/>
	\$48,647 54

*Construction.*

Right of way and station grounds.. . . .	\$123 90
	<hr/>

*District 'B.'*

Engineering.... .	\$110,790 11
Supplies... . .	17,491 00
General expenses.... .	12,093 83
Freight and express.... .	3,748 75
Camp outfit.... .	6,031 36
Furniture.. . . .	2,014 27
Medical fees.. . . .	253 49
Instruments.... .	291 46
Shop machinery and tools.. . . .	53 88
	<hr/>
	\$152,768 15

*Transport Service.*

Transport.... .	\$ 6,592 60
Supplies... . .	165 03
General expenses... . .	301 11
Freight and express.. . . .	643 39
Travelling expenses.... .	317 94
Camp outfit... . .	16 78
Medical fees.. . . .	6 00
	<hr/>
	\$ 8,042 85

*District 'C.'*

Engineering.... .	\$ 73,073 07
Supplies.... .	20,459 37
General expenses.. . . .	1,292 82
Freight and express.... .	1,473 22
Camp outfit.... .	9,737 94
Furniture.... .	90 40
Medical fees... . .	789 80
Instruments... . .	589 12
	<hr/>
	\$107,505 74



STATEMENT of Expenditure for Location and Construction—*Continued.*

*Transport Service.*

Transport....	\$ 32,932 30
Supplies....	14,450 32
General expenses..	3,781 64
Freight and express..	22,714 30
Travelling expenses....	2,240 10
Camp outfit....	3,090 51
Medical fees....	1,268 02
	<hr/>
	\$80,477 19

*District ' D.'*

Engineering..	\$74,207 13
Supplies..	10,615 24
General expenses..	2,303 23
Camp outfit..	5,102 72
Furniture..	78 75
Medical fees..	1,271 20
Transportation..	814 05
Shop machinery and tools ..	587 73
	<hr/>
	\$94,980 05

*Transport Service.*

Transport..	\$17,189 00
Supplies..	2,429 95
General expenses..	2,563 68
Freight and express..	2,436 56
Travelling expenses..	1,369 55
Camp outfit..	3,070 37
Medical fees ..	257 77
	<hr/>
	\$29,316 88

*District ' E.'*

Engineering..	\$51,753 47
Supplies..	3,636 27
General expenses..	2,639 62
Camp outfit ..	4,476 39
Medical fees..	1,070 80
Transportation ..	579 16
	<hr/>
	\$64,155 71

*Transport Service.*

Transport..	\$14,499 55
Supplies..	26,424 54
General expenses..	1,201 84
Freight and express..	43,922 93
Travelling expenses..	1,399 55
Camp outfit..	1,006 93
Medical fees..	133 45
	<hr/>
	\$88,588 79



SESSIONAL PAPER No. 39a

STATEMENT of Expenditure for Location and Construction—Continued.

District ' F. '

Engineering.. . . .	\$58,977 37
Supplies.. . . .	16,241 10
General expenses.. . . .	5,417 00
Freight and express.. . . .	156 46
Camp outfit.. . . .	4,278 73
Furniture . . . . .	547 50
Medical fees.. . . .	1,092 74
Transportation . . . . .	706 10
Shop machinery and tools . . . . .	372 05
Legal expenses.. . . .	50 00
	<hr/> \$87,839 05

Transport Service.

Transport.. . . .	\$9,605 15
Supplies.. . . .	1,519 85
General expenses.. . . .	1,815 79
Freight and express.. . . .	4,410 79
Travelling expenses.. . . .	1,049 95
Camp outfit.. . . .	1,082 05
Medical fees.. . . .	11 30
	<hr/> \$19,494 88
	<hr/> <hr/>

1907.

District ' B. —(Quebec.)

Engineering.. . . .	\$ 69,072 73
Supplies.. . . .	9,812 22
General expenses.. . . .	8,484 16
Freight and express.. . . .	1,540 59
Camp outfit . . . . .	4,170 46
Furniture.. . . .	878 54
Medical fees . . . . .	95 75
Legal expenses . . . . .	51 00
Instruments . . . . .	9 00
Right of way and station grounds.. . . .	87,942 07
Steel rails.. . . .	431,246 74
Track fastenings.. . . .	88,632 37
Ties . . . . .	25,617 23
Clearing . . . . .	38,512 70
Grubbing.. . . .	11,607 00
Grading.. . . .	1,382,917 12
Track laying and surfacing . . . . .	2,034 88
Frogs and switches.. . . .	5,395 09
Bridges, trestles and culverts . . . . .	767,952 69
Fencing right of way . . . . .	5,556 50
Cattle guards, signs and crossings . . . . .	537 51
Tunnels . . . . .	3,487 65
Miscellaneous structures.. . . .	1,821 18
	<hr/>
	\$2,947,375 18
Less 10 per cent reserve on contracts . . . .	221,237 45
	<hr/> \$2,726,137 73
	<hr/> <hr/>



7-8 EDWARD VII., A. 1908

STATEMENT of Expenditure for Locatlon and Construction—*Continued.*

1907.

*District 'F.'*

Engineering.. . . .	\$ 86,474 72
Supplies . . . . .	17,397 46
General expenses.. . . .	5,738 20
Freight and express.. . . .	1,813 46
Camp outfit.. . . .	5,506 11
Furniture.. . . .	101 42
Medical fees.. . . .	171 75
Right of way and station grounds.. . . .	235,771 61
Steel rails.. . . .	311,311 86
Track fastenings.. . . .	60,797 04
Ties.. . . .	12,277 42
Clearing.. . . .	60,967 80
Grubbing.. . . .	9,310 72
Grading.. . . .	1,119,723 44
Track laying and surfacing . . . . .	1,602 15
Frogs and switches.. . . .	4,452 60
Bridges, trestles and culverts.. . . .	51,421 77
Tunnels.. . . .	2,551 15
Miscellaneous structures.. . . .	1,469 39
	<hr/>
	\$1,988,860 07
Less 10 per cent reserve on contracts . . . .	125,262 06
	<hr/>
	\$1,863,598 01
	<hr/> <hr/>

THE COMMISSIONERS OF THE TRANSCONTINENTAL RAILWAY.

Statement of the total expenditure for the work done under this commission up to March 31, 1907.

Expenditure from September, 1904 to June 30, 1905....	\$ 778,363 63
Expenditure for the year ended June 30, 1906, including the amount paid by Finance Department to the Grand Trunk Pacific Railway Company, for the surveys east of Winnipeg taken over by the commis- sioners, viz: \$352,191.73.. . . .	1,831,263 50
Expenditure for the nine months ended March 31, 1907.. . . .	5,537,867 50
	<hr/>
Total expenditure to March 31, 1907.. . . .	\$8,147,494 63
	<hr/> <hr/>

D. HOCTOR,  
*Chief Accountant.*



SESSIONAL PAPER No. 39a

*To the Commissioners of the National Transcontinental Railway.*

GENTLEMEN,—I have the honour to submit the following statement of purchases made in the different provinces and also Great Britain and United States during the fiscal year ending March 31, 1907.

Province of Ontario.. . . .	\$107,176 91
“ Quebec.. . . .	88,933 57
“ Manitoba.. . . .	22,556 20
“ New Brunswick.. . . .	2,376 59
“ Nova Scotia.. . . .	505 91
“ Prince Edward Island .. . . .	134 40
“ British Columbia .. . . .	553 60
“ Alberta.. . . .	208 36
“ Saskatchewan.. . . .	157 44
Great Britain .. . . .	1,833 28
United States .. . . .	444 23
	<hr/>
	\$224,880 49

Yours respectfully,

A. L. OGILVIE,

*Purchasing Agent and Storekeeper.*











